

**REMARKS**

Reconsideration and allowance are respectfully requested. By this amendment, the specification has been editorially amended, and claims 1, 2 and 4 have been amended. Claims 1-5, 7 and 8 will be pending in the application.

No amendments raising new issues or requiring further consideration and/or search have been proposed. Accordingly, entry and consideration of this Amendment are respectfully requested under Rule 116.

***1. Request for Interview***

Applicants respectfully request an Interview with the Examiner because it is believed that an Interview would greatly assist the prosecution of this application. When it is convenient, the Examiner is requested to telephone the undersigned to schedule an Interview.

***2. Specification and Drawings Submitted with FWC Filing Papers***

The Examiner noted that a specification and drawings were submitted with the FWC filing papers. Apparently, the Examiner is referring to the English language translation of Korean application 93-13276, as listed on the Form PTO-1449 submitted with the IDS on August 5, 1996. Instead of considering this document, the Examiner lined out its listing on the Form PTO-1449. The Examiner is respectfully requested

to consider this document and enter his initials of Form PTO-1449 per MPEP § 609 in the left hand column. For the Examiner's convenience, a fresh copy of the Form PTO-1449 is submitted herewith for this purpose.

**3. *Objections to the Disclosure***

The specification stands objected to because lines 17 and 18 of page 6 were not understood. They have been corrected as required by the Office Action.

Claim 2 has been corrected for proper antecedence as required in the Office Action.

**4. *Claim Rejections Under 35 U.S.C. § 112 (Second Paragraph)***

Claims 1, 4, 5, 7 and 8 stand rejected under 35 U.S.C. § 112 (second paragraph) as allegedly being indefinite. The antecedent support for "self-refresh mode" and "standby state of the self-refresh mode" have been even more clearly defined, in response to the Office Action.

Moreover, Applicants respectfully disagree with the Office Action's contention that the phrase "standby state of the self-refresh mode" can not possibly be understood. It is notoriously well-known that memory devices, particularly RAM devices, require constant periodic refresh cycles to maintain cell charges. Commonly, dynamic RAM's include a self-refresh mode to perform this function. As is well known in the art, a

self-refresh mode is divided into an active state and a stand-by state (*see* the present specification at, for example, page 3, line 22, through page 4, line 26).

Claim 4 already recited the well-known feature that refresh operations are performed according to a self refresh mode. Although it is submitted that one skilled in the art would have readily understood them, claims 1 and 4 have been even further amended to point out that the semiconductor memory device has a self refresh mode, including an active state and a standby state defined by the self refresh mode enable signal and the chip active enable signal.

***5. Claim Rejections Under 35 U.S.C. § 103(a)***

Claims 1, 4, 5 and 8 were rejected in the parent application under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,329,168 to Sugibayashi et al. ("Sugibayashi"). Applicant respectfully traverses this rejection in view of the following remarks.

In accordance with an object of the present invention to provide a substrate bias generator which reduces current consumption during a self refresh mode, claim 1 (and similarly in claim 4) recites a controller which controls an operation of a substrate voltage level detector such that:

said substrate voltage level detector is not operative to drive said oscillator in said standby state of said self-refresh mode only when the detected substrate voltage level is a desired level.

By virtue of this patentable feature, current consumption by the substrate voltage level detector, and accordingly, the substrate bias generator, is markedly reduced during the self refresh mode.

Sugibayashi does not suggest this feature. Sugibayashi merely teaches a substrate bias system which receives power either from an external power voltage or an internal power voltage. Nowhere does Sugibayashi contemplate the problem of current consumption in the standby state of the self-refresh mode, much less the Applicant's solution whereby a substrate voltage level detector is rendered inoperative during this state and when the detected substrate voltage level is a desired level.

The Office Action contends that Sugibayashi's Figure 6 would have suggested a "controller" responsive to a "chip enable signal" ( $V_{ref}$ ) and a "self refresh enable signal" (PONA). However, a reference voltage such as  $V_{ref}$  can hardly be equated with a chip enable signal and a power on indication signal can hardly be equated with a self refresh mode enable signal. As set forth above, the chip active enable signal and the self refresh enable signal recited in claims 1 and 4 define the well-known active and standby states of the self refresh mode of memory devices.

The Office Action also contends that no patentable weight can be given to the limitation "such that said substrate voltage level detector is not operative ... desired level" because no relevance, relativity or definition is recited for the terms "self refresh mode" and "standby state." However, as set forth above, these terms are well known

in the art, and the patentable significance of this limitation would have been well understood by the skilled artisan.

For the foregoing reasons, independent claims 1 and 4 patentably define over the cited prior art. Accordingly, the § 103 rejection of these claims, and claims 8 and 5 which depend from claims 1 and 4, respectively, should be withdrawn.

***6. Allowable Subject Matter***


The Office Action indicated that claims 2 and 3 would be allowable if rewritten as required. Since claim 2 has been rewritten to overcome the objection, these claims should be allowed.

**7. Conclusion**

All objections and rejections having been addressed, it is submitted that the present application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

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